

### REMARKS

This application has been carefully reviewed in light of the Office Action dated September 9, 2002. Claims 1-4 and 6-11 are now pending in this application. Claims 1, 2, 4 and 6-11 have been amended. Claim 5 has been cancelled without prejudice. The specification and Abstract have also been amended as suggested in the Office Action. Favorable reconsideration is respectfully requested.

In the Office Action, Claim 11 was rejected under 35 U.S.C. 102 as being anticipated by U.S. Patent 5,033,082 (Eriksson). Claims 1 and 7 were rejected under 35 U.S.C. 103 as being unpatentable over Eriksson and WO 98/01956 (Linder). Claims 1-3 and 6-8 were rejected under 35 U.S.C. 103 as being unpatentable over the Eriksson in view of U.S. Patent 5,774,859 (Houser et al.). Claims 4, 5, 9 and 10 were rejected under 35 U.S.C. 103 as being unpatentable over the Eriksson and Houser et al. in view of U.S. Patent 5,485,515 (Allen et al.).

Applicant respectfully submits the following comments.

Claim 11 as amended is directed to an audio cancellation module including an audio input for receiving an audio signal from a microphone and at least two audio inputs for receiving audio source signals from respective independent audio sources. Both of the two audio source signals contribute to the audio signal from the microphone. The audio cancellation module is operative to produce a speech signal by canceling the at least two audio source signals from the audio signal from the microphone.

Eriksson, as understood by Applicant, relates to a communication system with active noise cancellation. The Office Action points out that two microphones 20 and 22 sense noise from noise sources 14 and 18. An adaptive filter model 56 cancels noise

from noise source 14 from the output of microphone 36, while an adaptive filter model 84 cancels noise from noise source 18 in the output of microphone 38. However, nothing has been found in Eriksson that teaches or suggests an audio cancellation module that is operative to produce a speech signal by canceling at least two audio source signals from an audio signal from the microphone, where both of the two audio source signals contribute to the audio signal from the microphone, as recited in Claim 11.

At least for this reason, Claim 11 is believed patentable over Eriksson.

Independent Claims 1 and 7 recite a similar feature as pointed out above in regard to Claim 11. A review of the other cited art does not reveal anything that would remedy the shortcomings of Eriksson discussed above. Accordingly, Claims 1 and 7 are believed patentable over Eriksson and Linder, taken alone or in any proper combination.

All claims dependent the independent claims discussed above are believed to be allowable at least for dependency there from, and for separate reasons of patentability.


For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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12/3/02

  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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SERIAL NO.: 09/666,398 EXAMINER: D. STORM  
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FOR: SPEECH RECOGNITION APPARATUS AND CONSUMER  
ELECTRONIS SYSTEM

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12/3/02

MARKED-UP AMENDMENTS

IN THE SPECIFICATION:

CLAIMS: What is claimed is:

IN THE ABSTRACT:

A speech recognition apparatus including~~includes~~ an audio cancellation module is disclosed~~(100)~~. The module includes an audio input ~~(110)~~ for receiving an audio signal from a microphone. The module also includes at least two audio inputs ~~(120, 130)~~ for receiving audio signals from respective independent audio sources. The audio cancellation module produces a speech signal by canceling

~~at least two~~ of the independent audio source signals from the microphone signal. A speech recognizer is used to recognize at least part of the speech signal.

Fig. 1

IN THE CLAIMS:

1. (Amended) A speech recognition apparatus

~~including~~comprising:

an audio cancellation module, including:

an audio input for receiving an audio signal from a microphone;

an least two audio inputs for receiving an at least two audio source signals from an respective independent audio sources, both the at least two audio signals contribute to the audio signal from the microphone,

wherein the audio cancellation module being operative to produce a speech signal by canceling the at least two audio source signals from the audio signal from the microphone signal; and

a speech recognizer for recognizing at least part of the speech signal;

~~characterized in that the audio cancellation module includes at least two audio inputs for receiving audio signals from respective independent audio sources; and in that the audio cancellation modules is operative to produce the speech signal by canceling at least two of the~~

~~independent audio source signals from the microphone signal.~~

2. (Amended) A speech recognition apparatus as claimed in claim 1, ~~wherein the speech recognition apparatus includes~~ further comprising a controller for, in response to a spoken instruction of a~~from a user as which is~~ recognized by the speech recognizer, issuing at least one command message to a further apparatus via a control communication network.

4. (Amended) A speech recognition apparatus as claimed in claim 1, wherein at least one of the two audio source signals is received via an audio communication network from an audio source unit that is external to the speech recognition apparatus.

6. (Amended) A speech recognition apparatus as claimed in claim 1, wherein the speech recognition apparatus includes at least one audio input for receiving an audio signal from an audio source unit that is external to the speech recognition apparatus; the audio signal being received substantially for the purpose of canceling this audio signal from the microphone signal.

7. (Amended) A consumer electronics system ~~including~~comprising:

at least two audio source apparatuses;

an audio cancellation module, including:

an audio input for receiving an audio signal from a microphone; and

at least two audio inputs for receiving independent audio source signals from respective ones of the audio source apparatuses, at least two of the independent audio source signals contribute to the audio signal from the microphone;

the audio cancellation module being operative to produce a speech signal by canceling the at least two ~~of the~~ independent audio source signals from the audio signal from the microphone-signal; and

a speech recognizer for recognizing at least part of the speech signal.

8. (Amended) A system as claimed in claim 7, ~~wherein the system includes~~ further comprising a control unit for, in response to a spoken instruction ~~effrom~~ a user as that is recognized by the speech recognizer, issuing at least one command message to an apparatus in the system via a communication network.

9. (Amended) A system as claimed in claim 8, wherein at least one of the audio source signals is received via the communication network from the associated audio source apparatus.

10. (Amended) A system as claimed in claim 9, wherein the audio cancellation module is located in an apparatus of the system, where the apparatus includes at least one audio input for receiving an audio source signal from an audio source apparatus external to the apparatus; the audio signal being received substantially for the purpose of canceling this audio signal from the microphone signal.

11. (Amended) An audio cancellation module,

~~including~~comprising:

an audio input for receiving an audio signal from  
a microphone; and

at least two audio inputs for receiving audio  
source signals from respective independent audio sources,  
both the at least two audio source signals contribute to  
the audio signal from the microphone;

the audio cancellation module being operative to produce a  
speech signal by canceling the at least two ~~of the~~  
~~independent~~ audio source signals from the audio signal from  
the microphone-signal.